

[BRAKE ASSEMBLY WITH TUNED MASS DAMPER]

Abstract of Disclosure

A tuned mass damper for sound-dampening brake squeal noise is located within a hole formed in a brake component such as a backplate supporting a brake pad. The location of the hole and the weight and geometry of the tuned mass damper are tailored to provide effective damping for the particular frequencies that are to be eliminated in the brake system. Locating the tuned mass damper inside of a hole in the component has packaging and manufacturing advantages, and results in a tuned mass damper that is less susceptible to damage when in use. The hole may be blind, the bottom of the hole being thin enough to serve as a spring member to which a vibration damping mass is attached. In one embodiment, the tuned mass damper is a module adapted for insertion into the hole in the brake backplate. Contact between the module and inner surfaces of the hole transfers mechanical vibration of the backplate to the tuned mass damper.

Figures